

Education Week Digital Directions

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FEATURES

Assistive-Tech Connections



Nancy Jarleborn, a speech therapist for the Los Angeles Unified School District, works with 4-year-olds who have autism at Parthenia Street Elementary School in North Hills, Calif. Parthenia is using a combination of low- and high-tech methods to improve the learning experiences for students with autism.

—Jamie Rector for Digital Directions

New Digital Products Target Needs of Autistic Children

By **Katie Ash**

Advancements in assistive technologies, as well as an increased focus on addressing the needs of students with autism, have spurred an emerging roster of new digital products designed to facilitate better communication between parents and teachers of children with autism and provide more affordable, higher-quality education to those students.

"The emergence of autism as a critical area has really exploded over the last five years," says Tracy Gray, the director of the Washington-based National Center for Technology Innovation, due in part to the growing

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number of students diagnosed with the condition. "Over the same period of time, there has been an emergence of assistive-technology tools across the board. ...

Developers and innovators really have taken hold of what the technology offers and built tools that are responsive to the needs of kids."

Autism, a developmental disorder that can impair communication and social-interaction skills, affects approximately one in 150 children in the United States, according to the Atlanta-based Centers for Disease Control and Prevention. Many of those children have significant struggles in school both academically and socially, forcing schools to find better ways to help them cope.

Chris Whalen is a co-founder and the president and chief science officer of TeachTown, an educational program for children with autism that includes computer lessons, noncomputer activities, data-collection features, and a communication system. The product, which is being used in the 700,000-student Los Angeles Unified School District, received a Technology in the Works Award from Gray's organization, NCTI, in 2008.

TeachTown provides feedback on which activities and research-based teaching strategies teachers should use with children with autism, based on the data collected for each child. The software also helps parents and teachers communicate more effectively about the progress of students.

"The idea is that if you can show progress to the parents, and they can see how the child is doing, it creates a more effective communication system and reduces anxiety," says Whalen.

The data-collection and synchronization piece of the software also reduces the amount of time special education teachers have to spend on paperwork, says Whalen.

Another product, AutismPro, provides a database of resources, lessons, and intervention strategies for teachers of students with autism. "We wanted to use the technology to help the teachers," says Kevin Custer, the chief executive officer of AutismPro, which is based in Fredericton, New Brunswick, in Canada.

"[Schools] are facing decreased budgets and decreased staffing, but double-digit growth in their kids with autism," he says. "We knew there had to be some way to leverage technology to help build capacity."

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Cynthia Cregier, a kindergarten teacher at Parthenia Street Elementary, helps students use a computer program called TeachTown, which aims to heighten the attention of students with autism by making learning more engaging and fun.

—Jamie Rector for Digital Directions

Technology Providers for Autism
Cambium Learning

Don Johnston Inc.

One of the challenges of providing support to students with autism, says Custer, is that each student has his or her own set of autism-related learning or social challenges, and as a consequence, not all methods or interventions work the same on different children.

"If you've met one child with autism, you've met one child with autism," he says. "There isn't one exact way that always works," which is why having a robust database of resources to pull from is so important, says Custer.

In addition to software programs that help teachers support such students, there has been an increase in the number of programs designed for students with autism to use directly, says Brenda Smith Myles, the chief of programs at the Bethesda, Md.-based Autism Society of America.

"We do know that our students learn well using technology and technology in all areas," she says. "In fact, many of our children are drawn to, for example, the computer because it's easy to navigate, easier to use than handwriting, and it's a way in which our students can show what they actually know."

Resources like Videojug, an online clearinghouse of how-to videos, as well as programs such as Mind Reading, software that explores how to read and recognize other people's emotions, are great resources for students with autism, she says. Such students are typically visual learners, says Smith Myles, so computers and videos are often effective teaching tools.

The Autism Internet Modules, being created by the Ohio Center for Autism and Low Incidence, will ultimately contain 60 modules about a multitude of issues surrounding autism, such as characteristics and identification, research-based practices and interventions, and the transition from school into adulthood. The modules are available for free online, serving as another helpful resource for students with autism, as well as for the parents and teachers who support them, says Smith Myles.

Toning Down Tech

But some experts warn against relying too heavily on technology to help such students succeed in school.

Those students need help with social skills, says Yvonne Domings, the instructional designer and research associate at the Wakefield, Mass.-based Center for Applied Special Technology, a nonprofit organization that

DynaVox Systems LLC

Gus Communications Inc.

Inspiration Software Inc.

Jessica Kingsley Publishers

TeachTown Inc.

Tobii Assistive Technology Inc.

Videojug Corp. Limited

Virtual Expert Clinics Inc.



TIPS

1. No two students with autism are the same, so be sure to identify a variety of solutions to find the one that works best for that particular student.
2. It's important to have good

researches learning opportunities for students with disabilities, and "that's just not what computers are good at," she says. "Computers and video games are not going to teach a kid with autism how to interact socially."

Cathy Pratt, the director of the Indiana Resource Center for Autism and the chairwoman of the board for the Autism Society of America, echoed Domings' concerns.

"Children with autism like to look at videos and TVs over and over again," she says, which can be an effective way of conveying information, but, she says, "my fear always with technology is that by the very nature of autism, [the students] find it easier to interact with inanimate things rather than with people."

Too much interaction with technology, as opposed to actual people, might not be challenging for such students, she says. "It always has to be balanced out."

Although there are many new products available for such students, another challenge is keeping decisionmakers informed about what's available and what the benefits of assistive technologies are, says Gray from NCTI.

"In this financially challenging environment that all schools are facing, they are having to balance all of their technology-purchasing decisions with how they can get the most for their buck—what services the most students," she says.

Sue Lin, the project director for the Silver Spring, Md.-based Association of University Centers on Disabilities, encourages schools to look into affordable ways to obtain and share assistive technologies for students with autism and other disabilities.

Under the federal Assistive Technologies Act, reauthorized in 2004, "every state was mandated by the federal government to create an assistive-technology loan library," she says. "Every state sets up their loan library a little differently, but the educational system needs to tap into that resource."

Schools can also explore pooling their technologies to create their own assistive-technology loan libraries, says Lin. "In this day and age, we're always talking about leveraging digital resources," she says. "We're always looking at how we can collaborate with school systems and educators in the field."

communication between the teachers, the professionals, and the parents who work with the student so that everyone is on the same page whether the child is at home or in school. Using technology to collect and track data can help save time for teachers and reduce anxiety for both teachers and parents about the child's progress.

3. Many students with autism struggle with social interaction, so it's important to engage students in both technology-based and non-technology-based activities instead of relying solely on computer-based solutions.

4. Look into assistive-technology loan libraries to find out what resources might be available for free to your school. Consider partnering with other schools or districts in the area to pool assistive-technology resources.

5. Stay informed about the different types of assistive technologies available. Knowing what they are and how they work can help you make a strong case to decisionmakers about which technologies to purchase.